



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/473,740	12/28/1999	HONGJIANG SONG	INTL-0327-US	1399

7590 02/09/2004

TIMOTHY N TROP  
TROP PRUNER HU & MILES P C  
8554 KATY FREEWAY, STE 100  
HOUSTON, TX 77024

EXAMINER

VO, DON NGUYEN

ART UNIT	PAPER NUMBER
----------	--------------

2631

DATE MAILED: 02/09/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/473,740

Applicant(s)

SONG, HONGJIANG

Examiner

DON N VO

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Acknowledgment***

1. This Office Action is responsive to the Amendment filed on 11/17/2003.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (fig. 1) of instant application in view of Lang (5,956,377; art of record).

As shown in figure 1, the admitted prior art teaches a repeater circuit comprising a data recovery circuit (16) and synchronization detection circuit (18). See also page 1, line 1 to page 2, line 10 of the instant application. The admitted prior art fails to teach detecting whether some of the bits indicate a synchronization field during the buffering the bits. However, Lang teaches, as shown in figure 3 and abstract, detecting whether some of the incoming bits indicate a synchronization field during the buffering the incoming bits in order to minimize the delay in processing the signal. See also column 2, lines 31-51. Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the repeater circuit of the admitted prior art by employing the teaching of Lang so that to improve the delay time of repeating the data since both buffering bits and detecting synchronization field are performed concurrently.

4. Claims 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (fig. 1) of instant application in view of Lang (5,956,377) as applied to claims 1-8 and 15-20 above, and further in view of Banker et al (5,497,187; art of record), Andersson et al (5,671,249; art of record) or Julyan (5,790,610; art of record).

Both the admitted prior art and Lang teach all subject matter claimed except for using the output of the data recovery circuit to apply to the transmitter to form an outgoing data. However, Banker (fig. 4C), Andersson (figs. 3 and 4) or Julyan (figs. 1, 2 and 7) teaches using the output of the data recovery circuit to apply to the transmitter to form an outgoing data. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the repeater of the admitted prior art by employing the teachings of Banker, Andersson or Julyan so that the delay for processing the signal received from the receiving end to the transmitting end of the repeater can be reduced.

***Response to Arguments***

5. Applicant's arguments filed on 11/17/2003 have been fully considered but they are not persuasive.

On page 2 of the Response, applicant traverses to the rejections by mainly arguing that the examiner relies on Lang (5,956,377) for the teaching of "buffering bits to accommodate a difference between a first rate of incoming data and a second rate of outgoing data." However, the examiner did not rely on Lang for such teaching. The admitted prior art has such teachings. See page 1, lines 12-15 of the instant application. Moreover, the examiner relies on Lang for the teaching of "detecting whether some of the incoming bits indicate a synchronization field during the buffering of the incoming bits."

Applicant further argues on page 3 of the Response that the admitted prior art teaches away from the claimed invention by not "detecting whether bits indicate a synchronization field *during* the buffering of the bits." The admitted prior art only teaches detecting synchronization field *after* the buffering. The examiner agrees. However, as further discussed by the admitted prior art (pages 1-2 of the instant application), such teaching of synchronization field detection after buffering will introduce delay and thus, degrading system performance. Therefore, there is a need for avoiding this delay. Lang, in the same field of endeavor, teaches avoiding the delay caused by synchronization field detection by detecting the synchronization field while buffering the continuous stream of digital data. (Lang, figure 3; column 1, lines 50-63 and column 2, line 10 to

column 3, line 10). Thus, the delay problem of the admitted prior art could be fixed if using the teaching of Lang. That is why reference Lang is introduced for the 103 rejections.

Based on the above rationale, it is believed that the claimed limitations are met by the combination of the admitted prior art and Lang and therefore, the rejections are still maintained.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DON N VO whose telephone number is (703) 305-4885. The examiner can normally be reached on 8:30AM-5:00PM, Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MOHAMMAD GHAYOUR can be reached on (703) 306-3034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DON N VO  
Primary Examiner  
Art Unit 2631